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(12) United States Patent Howell et al.

(54) OUT-OF-PLANE CONFIGURATION-ADJUSTING MECHANISM, SYSTEM, AND METHOD

(75) Inventors: Larry L. Howell, Orem, UT (US);
Brian Geoffrey Winder, Ridgecrest, CA

(US); Erik Kent Bassett, Cambridge, MA (US); Allen Boyd Mackay, Flagstaff, AZ (US); Spencer P. Magleby, Provo, UT (US)

(73) Assignee: **Brigham Young University**, Provo, UT

(US)

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Primary Examiner — John C Hong (74) Attorney, Agent, or Firm — Kunzler Law Group

(57) ABSTRACT

Configuration-adjusting mechanisms include linkages interconnecting first and second layers of a sheet material. The linkages have hinges positioned and oriented to cause motion of at least a portion of the linkages out of a plane of the first and second layers when the mechanisms are actuated. An apparatus, system, and method include one or more of the mechanisms for changing a contour of a surface provided by a cover overlying the mechanisms. An array of mechanisms or mechanisms corresponding to an array of positions on the surface may be selectively actuated to change the contour or texture of the surface. The array of mechanisms for changing the contour can provide user interface buttons selectively actuated by the mechanisms, which cause the buttons to emerge from the surface. A reconfigurable contour may be provided by selectable sets of the buttons associated with respective functions of a control panel, for example.

20 Claims, 6 Drawing Sheets

